

***Salmonella* Bacteriophage from Dairy Environments**

An Honors Thesis (HONR 499)

by

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Abstract:

Salmonellosis is a common concern in food products, particularly those derived from the dairy industry. Bacteriophage are present in raw milk and are the natural predators of bacteria such as *Salmonella*. In this project, bacteriophage are isolated from raw milk in order to quantify their bactericidal effects on relevant *Salmonella* serovars. There is potential to use bacteriophage as a preventative/ treatment option for salmonellosis.

We used bacterial isolation and identification techniques to determine the presence of *Salmonella* in a dairy farm environment. Serial dilution, spectrophotometry, and double agar plating methods were utilized in order to isolate bacteriophage. Bacteriophage were then successfully isolated for naturally occurring *Salmonella*. Although the experiment is still ongoing, we have concluded that there are relevant serovars of *Salmonella* in the bovine milk samples we tested. Also present in these samples are endogenous bacteriophage with potential to biologically control the presence and growth of these bacteria in unprocessed dairy milk.

Key Words: *Salmonella*, bacteriophage, dairy

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